IN THE CLAIMS:

Please amend the claims as follows:

1-10. (Cancelled)

11. (Currently Amended) A scheduling system for generating a schedule of start times for a plurality of tasks for a project, at least one task of the plurality of tasks having associated resources utilized to perform the task, the system comprising:

a load leveler subsystem configured to receive data representative of the plurality of tasks for the project, and to generate a proposed schedule of start times for the plurality of tasks responsive to at least one scheduling constraint between at least two of the plurality of tasks and fluctuations of resources utilized to perform the plurality of tasks, wherein the plurality of tasks are steps in a workflow to complete the project, and wherein the at least one scheduling constraint requires a first task to be a predecessor to a second task within the workflow;

a cost estimator subsystem communicatively coupled to the load leveler subsystem to evaluate the proposed schedule of start times for the plurality of tasks to estimate a cost associated therewith, wherein the associated cost is based significantly on properties of the proposed schedule other than duration; and

a cost minimizer communicatively coupled to the cost estimator for modifying the proposed schedule of start times for the plurality of tasks responsive to the resource fluctuations and its associated cost; wherein the load leveler subsystem is further configured to output data representative of the modified proposed schedule of start times for the plurality of tasks for the project.

12. (Previously Presented) The system of claim 11, wherein the cost estimator is implemented using dynamic programming.

13. (Previously Presented) The system of claim 11, wherein the cost estimator is implemented using linear programming.

14. (Previously Presented) The system of claim 11 wherein the load leveler further comprises a makespan minimizer configured to determine a minimum length schedule of tasks that uses at most a maximum number of resources to complete the plurality of tasks, at least one of the tasks of the plurality of tasks subject to at least one constraint on the location of the task in the schedule of start times for the plurality of tasks.

15. (Previously Presented) The system of claim 14 wherein the makespan minimizer uses a schedule packing algorithm.

16. (Previously Presented) The system of claim 11, wherein the cost minimizer subsystem comprises an incremental improvement engine configured to determine for each of a plurality of tasks, each task having a plurality of possible start times, a start time for the task that results in a lowest estimated cost for the proposed schedule of start times for the plurality of tasks.

17. (Currently Amended) A computer-implemented method for generating a schedule of start times for a plurality of tasks for a project, each task of the plurality of tasks having zero or more associated resources, the method comprising:

receiving, at a computer system, data representative of the plurality of tasks and resources for a project, wherein the plurality of tasks are steps in a workflow to complete the project and there is at least one scheduling constraint between

at least two of the plurality of tasks, and wherein the at least one scheduling constraint requires a first task to be a predecessor to a second task within the workflow;

generating, at the computer system, a proposed schedule of start times for the plurality of tasks for the project responsive to the at least one scheduling constraint and fluctuations of resources utilized to perform the plurality of tasks;

evaluating, at the computer system, the proposed schedule of start times for the plurality of tasks to estimate an associated cost, wherein the associated cost is based significantly on properties of the proposed schedule other than duration;

modifying, at the computer system, the proposed schedule of start times for the plurality of tasks responsive to the resource fluctuations and the cost; and

outputting, from the computer system, the modified proposed schedule of start times for the plurality of tasks for the project.

18. (Previously Presented) The computer-implemented method of claim 17, wherein evaluating the proposed schedule of start times for the plurality of tasks to estimate the associated cost further comprises using a dynamic programming model.

19. (Previously Presented) The computer-implemented method of claim 17, wherein evaluating the proposed schedule of start times for the plurality of tasks to estimate the associated cost further comprises using a linear programming model.

20. (Previously Presented) The computer-implemented method of claim 17, wherein generating the proposed schedule of start times for the plurality of tasks includes

associating a limitation with each of the resources and producing the proposed schedule of start times for the plurality of tasks responsive to each limitation.

21. (Previously Presented) The computer-implemented method of claim 20, wherein generating the proposed schedule of start times for the plurality of tasks includes iteratively reducing the limitation for one of the resources and load-leveling the resources.

22. (Previously Presented) The computer-implemented method of claim 17, wherein evaluating the proposed schedule of start times for the plurality of tasks includes determining costs associated with the resource fluctuations.

23. (Previously Presented) The computer-implemented method of claim 22, wherein the costs associated with the resource fluctuations include at least one of the group of resource acquisitions costs, resource disposition costs, incremental costs for resource over-utilization, and incremental costs for resource under-utilization.

24. (Previously Presented) The computer-implemented method of claim 23, wherein resource acquisition costs include a hiring cost.

25. (Previously Presented) The computer-implemented method of claim 23, wherein resource disposition costs include a firing cost.

26. (Previously Presented) The computer-implemented method of claim 23, wherein incremental costs for resource over-utilization include an overtime cost.

27. (Previously Presented) The computer-implemented method of claim 23, wherein incremental costs for resource under-utilization include an idle resource cost.

28. (Previously Presented) The computer-implemented method of claim 17, wherein generating the proposed schedule of start times for the plurality of tasks comprises

identifying an admissible window in the proposed schedule of start times for the plurality of tasks for each task of the plurality of tasks and iteratively placing each task of the plurality of tasks within the proposed schedule of start times for the plurality of tasks responsive to the admissible window, a priority of the task, and a cost of at least part of the proposed schedule of start times for the plurality of tasks having the task placed therein.

29. (Previously Presented) The computer-implemented method of claim 17, wherein evaluating the proposed schedule of start times for the plurality of tasks comprises examining one of the plurality of tasks to estimate the cost associated with the proposed schedule of start times for the plurality of tasks responsive to moving the task within a window describing allowable locations of the task in the schedule of start times for the plurality of tasks.

30. (Previously Presented) The computer-implemented method of claim 17, wherein the resource fluctuations are determined by using a profile for each of the resources.

31. (Withdrawn) A method for optimizing a location of one of a plurality of tasks in a schedule for a project to minimize a cost of the schedule, the method comprising:

receiving data describing the task;

determining at least one valid start time in the schedule for the task;

estimating the cost of the schedule for each valid start time for the task;

selecting the valid start time in response to the estimated cost of the schedule; and

associating the selected start time with the task; and

outputting the selected start time of the task;

wherein the task uses at least one resource, each resource having a cost, and

estimating the cost of the schedule for each valid start time for the task further comprises:

determining for each start time a cost of each resource used by the task; and

estimating the cost of the schedule for each start time by summing the cost of each resource used by the task and other costs in the schedule.

32. (Withdrawn) The method of claim 31 wherein a dynamic programming model is utilized to estimate a cost of each resource used by a task.

33. (Withdrawn) The method of claim 31 wherein a linear programming model is utilized to estimate a cost of each resource used by a task.

34. (Currently Amended) A scheduling system for generating a schedule of start times for a plurality of tasks for a project, at least one task of the plurality of tasks having associated resources utilized to perform the task, the system comprising:

a cost estimator subsystem configured to receive data representative of a proposed schedule of start times for the plurality of tasks for the project, to evaluate the proposed schedule of start times for the plurality of tasks, and to estimate a cost of the project associated with the proposed schedule of start times for the plurality of tasks, wherein the associated cost is based significantly on properties of the proposed schedule other than duration, wherein the plurality of tasks are steps in a workflow to complete the project, wherein at least one scheduling constraint exists between at least two of the plurality of tasks, and wherein the at least one scheduling constraint requires a first task to be a predecessor to a second task within the workflow; and

a cost minimizer communicatively coupled to the cost estimator and configured to modify the proposed schedule of start times for the plurality of tasks responsive to the resources utilized to perform the plurality of tasks and the estimated cost of the project and to output data representative of the proposed schedule of start times for the plurality of tasks.

35. (Previously Presented) The scheduling system of claim 34, wherein the cost estimator is implemented using dynamic programming.

36. (Previously presented) The scheduling system of claim 34, wherein the cost estimator is implemented using linear programming.

37. (Currently Amended) A method for generating a schedule of start times for a plurality of tasks for constructing a ship, at least one task of the plurality of tasks having associated resources utilized to perform the task, the method comprising:

receiving, at a computer system, data representative of the plurality of tasks for constructing the ship, wherein the plurality of tasks are steps in a workflow to construct the ship and there is at least one scheduling constraint between at least two of the plurality of tasks, and wherein the at least one scheduling constraint requires a first task to be a predecessor to a second task within the workflow;

generating, at the computer system, a proposed schedule of start times for the plurality of the tasks responsive to the at least one scheduling constraint and fluctuations of resources utilized to perform the plurality of tasks;

evaluating, at the computer system, the proposed schedule of start times for the plurality of tasks to estimate a cost associated therewith, wherein the

associated cost is based significantly on properties of the proposed schedule other than duration;

modifying, at the computer system, the proposed schedule of start times for the plurality of tasks responsive to the resource fluctuations and a cost associated therewith; and

outputting, from the computer system, data representative of a modified proposed schedule of start times for the plurality of tasks for constructing the ship.

38. (Previously Presented) The method of claim 37, wherein the plurality of tasks for constructing the ship comprise welding, painting, electrical work, or any combination thereof.

39. (Previously Presented) The method of claim 37, further comprising determining a minimum length schedule of tasks that uses at most a maximum number of resources to complete the plurality of tasks.

40. (Previously Presented) The method of claim 39, wherein at least one of the plurality of tasks is subject to at least one constraint on the location of the task in the schedule of start times for the plurality of tasks.

41. (Previously Presented) The method of claim 39, further comprising using a schedule packing algorithm.

42. (Previously Presented) The method of claim 37, further comprising determining for each of a plurality of tasks, each task having a plurality of possible start times, a start time for the task that results in a lowest estimated cost for the proposed schedule of start times for the plurality of tasks.

43. (Currently Amended) A computer-implemented method for generating a schedule of start times for a plurality of tasks for constructing a ship, each task of the plurality of tasks having zero or more associated resources, the method comprising:

receiving, at a computer system, data representative of the plurality of tasks and resources for constructing the ship, wherein the plurality of tasks are steps in a workflow to construct the ship and there is at least one scheduling constraint between at least two of the plurality of tasks, and wherein the at least one scheduling constraint requires a first task to be a predecessor to a second task within the workflow;

generating, at the computer system, a proposed schedule of start times for the plurality of tasks for constructing the ship responsive to the at least one scheduling constraint and fluctuations of resources utilized to perform the plurality of tasks;

evaluating, at the computer system, the proposed schedule of start times for the plurality of tasks to estimate an associated cost, wherein the associated cost is based significantly on properties of the proposed schedule other than duration;

modifying, at the computer system, the proposed schedule of start times for the plurality of tasks responsive to the resource fluctuations and the associated cost; and

outputting, from the computer system, the modified proposed schedule of start times for the plurality of tasks for constructing a ship.

44. (Previously Presented) The method of claim 43, wherein the plurality of tasks for constructing the ship comprise welding, painting, electrical work, or any combination thereof.

45. (Previously Presented) The method of claim 43, wherein generating the proposed schedule of start times for the plurality of tasks includes associating a limitation with each of the resources and producing the proposed schedule of start times for the plurality of tasks responsive to each limitation.

46. (Previously Presented) The method of claim 45, wherein generating the proposed schedule of start times for the plurality of tasks includes iteratively reducing the limitation for one of the resources and load-leveling resources.

47. (Previously Presented) The method of claim 43, wherein evaluating the proposed schedule of start times for the plurality of tasks includes determining costs associated with the resource fluctuations.

48. (Previously Presented) The method of claim 47, wherein the costs associated with the resource fluctuations include at least one of the group of resource acquisitions costs, resource dispositions costs, incremental costs for resource over-utilization, and incremental costs for resource under-utilization.

49. (Previously Presented) The method of claim 43, wherein generating the proposed schedule of start times for the plurality of tasks comprises identifying an admissible window in the proposed schedule of start times for each task of the plurality of tasks and iteratively placing each task within the proposed schedule of start times for the plurality of tasks responsive to the admissible window, a priority of the task, and a

cost of at least part of the proposed schedule of start times for the plurality of tasks having the task placed therein.

50. (Currently Amended) A method for generating a schedule of start times for a plurality of tasks for constructing a ship, at least one task of the plurality of tasks having associated resources utilized to perform the task, the method comprising:

receiving, at a computer system, data representative of a proposed schedule of start times for the plurality of tasks for constructing the ship, wherein the plurality of tasks are steps in a workflow to construct the ship and there is at least one scheduling constraint between at least two of the plurality of tasks, and wherein the at least one scheduling constraint requires a first task to be a predecessor to a second task within the workflow;

evaluating, at the computer system, the proposed schedule of start times of the plurality of tasks;

estimating, at the computer system, a cost of constructing the ship associated with the proposed schedule of start times for the plurality of tasks, wherein the associated cost is based significantly on properties of the proposed schedule other than duration;

modifying, at the computer system, the proposed schedule of start times for the plurality of tasks responsive to the at least one scheduling constraint and the resources utilized to perform the plurality of tasks and the estimated cost of constructing the ship; and

outputting, from the computer system, data representative of the proposed schedule of start times for the plurality of tasks.

51. (Previously Presented) The method of claim 50, wherein the plurality of tasks for constructing the ship comprise welding, painting, electrical work, or any combination thereof.